

REMARKS

Claims 1-3 and 6-20 are pending. Claims 1-17 have been rejected. By this Amendment, claims 1, 2, 6, 7, 10-12 and 17 have been amended. Claims 4 and 5 have been canceled without prejudice or disclaimer. Claims 18-20 have been added. Support for the claims can be found throughout the specification and claims as originally filed. No new matter has been added. Thus, reconsideration in view of the above amendments and the following remarks is requested.

A. Claims 1, 8 and 11 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the Federal Circuit has repeatedly held that definiteness of claim language must be analyzed, not in a vacuum, but in light of, *inter alia*, the content of the particular application disclosure and the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. *See, e.g., In re Marosi*, 710 F.2d 799, 218 U.S.P.Q. 289 (Fed. Cir. 1983). In view of the holding by the Federal Circuit, Applicants submit that the claims are clear

enough that one of ordinary skill in the art would be able to ascertain the boundaries of the presently claimed invention.

Nonetheless, Applicants submit that claim 1 has been amended to clarify that the phrase “having a stack of at least one transparent film layer” modifies the “second electrode” and not the “organic emitting layer”. Thus, it should be interpreted, as recited in the Office Action, that the “second electrode” has “a stack of at least one transparent layer”.

Applicants also submit that the language of claim 8 has been amended to clarify that the phrase “having a stack of at least one transparent film layer” modifies the “protection film” and not the “second electrode”. Thus, it should be interpreted, as recited in the Office Action, that the “protection film” has “at least one transparent thin film layer”.

Applicants further submit that claim 11 has been amended to clarify that the phrase “having alternate stack of at least one metal layer and at least a transparent thin film layer” modifies the “second electrode” and not the “organic emitting layer”. Thus, it should be interpreted, as recited in the Office Action, that the “second electrode” has an “alternate stack of at least one metal layer and at least a transparent thin film layer”.

In addition, Applicants submit that claim 11 has been amended to clarify that the phrase “having a stack of at least one transparent film layer” modifies the “protection film” and not the “second electrode”. Thus, it should be interpreted, as recited in the Office Action, that the “protection film” has “at least one transparent thin film layer”.

Consequently, for at least these reasons, the § 112, second paragraph rejections should be withdrawn.

B. Claims 1 and 8 are rejected under 35 U.S.C. § 102(a) as being allegedly anticipated by Graff et al. (U.S. Patent No. 6,522,067) hereafter “Graff”. Applicants respectfully traverse this rejection.

As the Office is aware, a rejection under 35 U.S.C. § 102 is only proper when the claimed subject matter is identically described or disclosed in the prior art. (*In re Arkeley*, 455 F.2d 586, 587 (CCPA 1972); *see also* M.P.E.P. § 706.02(a) (explaining that “[a]reference must teach every aspect of the claimed invention either explicitly or impliedly.”).) In the present case, the claimed invention is not identically disclosed in Graff, and thus the rejection under § 102(a) is not merited.

In particular, Applicants respectfully submit that claim 1 has been amended to include elements of claims 4 and 5. Specifically, claim 1 now recites an EL device in which “the transparent thin film layer of the second electrode includes a first layer of a **metal**, and a second layer of a **transparent material**,” and that “the first layer and the second layer are stacked alternately”. Graff does not teach or suggest these claim elements.

Graff, on the other hand, discloses an OLED having multiple layers, but none of the layers includes a first layer of metal on a second electrode. In fact, Graff does not teach a metal at all. Rather, at best, Graff discloses that its barrier layers, which may be deposited between polymer layers, include “metal oxides, metal nitrides, metal carbides, metal

oxynitrides and combinations thereof.” See column. 2, lines 18. These compounds, however, are clearly not metals. Moreover, there is no suggestion in Graff to substitute these compounds for metals.

Thus, since there is no teaching or suggestion of the elements of claim 1 in Graff, Applicants respectfully submit that the § 102(a) rejection should be withdrawn. Further, because claim 8 depends from claim 1, the rejection over claim 8 should be withdrawn also.

C. Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Graff in view of the Applicant's admission of the prior art. Applicants respectfully traverse this rejection.

Applicants respectfully submit that when establishing a *prima facie* case of obviousness, the Office carries the initial burden of establishing, *inter alia*, that there exists some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the teachings of references. M.P.E.P. § 2143. In addition, the Office must show that the references when combined teach or suggest all of the limitations of the claims. *Id.* In the present case, the rejection is improper at least for the reason that Graff does not teach or suggest all of the elements of the claims.

In particular, as discussed above, Graff does not disclose an EL device in which “the transparent thin film layer of the second electrode includes a first layer of a **metal**, and a second layer of a **transparent material**,” and that “the first layer and the second layer are

stacked alternately”. Moreover, Applicants’ alleged admission of the prior art does not cure these deficiencies, and neither does the Office rely on the admission of the prior art for any of these presently claimed elements.

Thus, Applicants respectfully submit that the rejection under § 103(a) should be withdrawn, since the Office has not met its burden of establishing obviousness.

D. Claims 2, 4-7, 11, 12, 14 and 15 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Graff in view of Furugori et al. (US 2002/0180350 A1) hereafter “Furugori”. Applicants respectfully traverse this rejection.

As an initial matter, Applicants note that claims 4 and 5 have been canceled, and thus the rejection regarding these claims should be withdrawn.

Regarding claims 2 and 12, the Office alleges that Furugori cures the deficiencies of Graff by teaching at paragraph 0079 an OLED having a first electrode formed of ITO for transparency. Regarding claims 6, 7, 11, 14 and 15, the Office alleges that Furugori cures the deficiencies of Graff by teaching at paragraph 0063 a second electrode having a two-layer structure comprising a first layer of metal such as Al:Li with a second transparent layer of ITO formed thereon, where the first and second layers are alternately formed.

The Office alleges that it would have been obvious to modify Graff to include the materials, stacked alternately, in order to allow light to be emitted from both sides of the device. Applicants respectfully disagree.

The Federal Circuit has held that there must be a clear and particular suggestion in

the prior art to combine the teachings of the cited references in the manner proposed by the Examiner. As explained by the Federal Circuit, “[o]ur case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” See *In re Dembiczak* 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). In the present case, Applicants submit that there is no clear and particular suggestion or motivation to modify Graff with the disclosure of Furugori.

In particular, Applicants point out that Graff specifically teaches an OLED encapsulated in barrier stacks. In fact, Graff provides an improvement over the related art because the device has a lightweight barrier construction, “used to encapsulate the OLED and prevent the deterioration caused by permeation of oxygen and water vapor”. Column 1, lines 51-55. Graff achieves this improvement over the related art by including barrier layers preferably comprising “a material selected from the group consisting of metal oxides, metal nitrides, metal carbides, metal oxynitrides, and combinations thereof”, and polymer layers. Column 2, lines 7-18.

Furugori, on the other hand, is not concerned with and does not disclose an OLED encapsulated in barrier stacks. Rather, Furugori is narrowly concerned with an EL device having a superior antireflection effect, which it achieves by using a light absorption layer between the substrate and the first electrodes. Paragraph [0016]. The absorption layer includes materials such as graphite, carbon black, organic dyes, and inorganic pigments.

Paragraph [0030]. Furugori does disclose using a plurality of first electrodes and second electrodes with several different materials. Paragraphs [0029] and [0031]. For instance, Furugori discloses that ITO and aluminum lithium alloys are useful, but does not teach that any one of the materials is selectively more useful or would be advantageous for every type of EL device.

As such, there is absolutely no suggestion or need to modify Graff with a first layer of metal such as Al:Li in combination with a second transparent layer of ITO formed thereon. Indeed, only through hindsight using Applicants' disclosure would one even attempt to combine the references, which is improper.

Thus, Applicants respectfully submit that since the Office has not shown the combination of the references would be obvious, the § 103(a) rejection should be withdrawn.

E. Claim 9 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Graff in view of Kubota et al. (US 2002/0113241 A1) hereafter "Kubota". Applicants respectfully traverse this rejection.

Applicants respectfully submit that claim 9 depends from presently amended claim 1, discussed above. In particular, Graff does not teach all of the elements of claim 1. Further, Kubota does not cure these deficiencies since its EL device does not have a second electrode that includes a first layer of a metal and a second layer of a transparent material, and first and second layers that are stacked alternately.

Thus, Applicants respectfully submit that the rejection under § 103(a) should be withdrawn, since the Office has not met its burden of establishing obviousness.

F. Claim 10 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Graff in view of Kubota, and further in view of Uchida et al. (U.S. Patent No. 5,912,061) hereafter "Uchida". Applicants respectfully traverse this rejection.

As discussed above for the rejection regarding claim 9, Applicants likewise respectfully submit that claim 10 depends from presently amended claim 1, discussed above. Moreover, as discussed above, Graff does not teach all of the elements of presently amended claim 1, and Kubota does not cure its deficiencies. Further, even though Uchida discloses acrylate polymers, it does not cure the deficiencies of Graff in view of Kubota.

Thus, maintaining the rejection under § 103(a) is improper and it should be withdrawn.

G. Claim 13 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Graff in view of Furugori, and further in view of the Applicant's admission of the prior art. Applicants respectfully traverse this rejection.

As discussed above regarding the rejection over claims 2, 4-7, 11, 12, 14 and 15 over Graff in view of Furugori, Applicants respectfully submit that other than hindsight gleaned from Applicants' own disclosure, there is no clear and particular suggestion in the prior art to combine the teachings of the cited references in the manner proposed by the Examiner.

In particular, Graff's improved device having a lightweight barrier construction and Furugori's device having a superior antireflection effect are very separate and distinct inventions, with no reason to combine or modify either of them. Further, Applicants' alleged admission of the prior art does not close the gap in the Office's misplaced reasoning. Rather, Applicants' disclosure merely provides an overview of the prior art, and should not be used to reconstruct or piece together the prior art in order to defeat patentability.

Thus, maintaining the rejection under § 103(a) is improper and should be withdrawn.

H. Claim 16 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Graff in view of Furugori, and further in view of Kubota et al. (US 2002/0113241 A1) hereafter "Kubota". Applicants respectfully traverse this rejection.

As discussed above regarding the rejections over claims 2, 4-7, 11-15 over Graff in view of Furugori, Applicants respectfully submit that there is no clear and particular suggestion in the prior art to combine the teachings of the cited references in the manner proposed by the Examiner.

In addition, regarding Kubota, as discussed above, the reference does not cure the deficiencies of Graff, which does not teach all of the elements of base claim 11 from which claim 16 depends. In particular, similar to presently amended claim 1, presently amended claim 11 recites "a second electrode having an alternate stack of at least one metal layer and at least a transparent thin film layer". Graff and Kubota, however, do not teach or disclose such elements.

Thus, Applicants respectfully submit that the rejection under § 103(a) should be withdrawn.

I. Claim 17 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Graff in view of Furugori, and further in view of Kubota and Uchida. Applicants respectfully traverse this rejection.

As discussed above, regarding the rejection over claim 16, Graff in view of Furugori, and further in view of Kubota do not disclose or suggest the presently claimed invention. Uchida does teach acrylate polymers, as also discussed above, but Uchida does not cure the deficiencies of the other cited prior art references.

Thus, maintaining the rejection under § 103(a) is improper and should be withdrawn.

J. Applicants respectfully submit that claims 18-20 are newly added by this Amendment and are believed to be in condition for allowance.

CONCLUSION

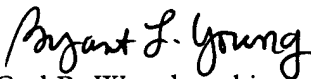
In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned agent, **Bryant L. Young**, at the telephone number listed below. Favorable consideration and prompt allowance are earnestly solicited.

Serial No. 10/686,732
Reply to the Office Action of May 4, 2004

Docket No. K-0546

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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